

Notice of Allowability

Application No.

09/806,184

Examiner

Zachary C. Tucker

Applicant(s)

COLLEY ET AL.

Art Unit

1624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 14 May 2004.
2. ☒ The allowed claim(s) is/are 1-29.
3. ☒ The drawings filed on 28 March 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

IN THE SPECIFICATION –

On page 1, under the title, the statement, "This application was filed under 35 U.S.C. 371, and is the U.S. National Stage of PCT/GB99/03230, filed 29 September 1999." has been inserted.

Response to Amendment

As requested in the correspondence filed 14 May 2004, which is in reply to the Office action mailed 14 January 2004, claim 1 has been amended.

Status of Double Patenting Rejection

In the previous Office action, mailed 14 January 2004, claims 1-29 were rejected under the judicially created doctrine of obviousness-type double patenting over claims 1, 2 and 11-23 of US 6,632,330 B1 (Colley et al).

In view of the Terminal Disclaimer over US 6,632,300 B1, the rejection has been overcome, and is hereby withdrawn.

Status of Claim Rejections - 35 USC § 103

In the previous Office action, mailed 14 January 2004, claims 1-9 and 11-27 were rejected under 35 U.S.C. 103(a) as being unpatentable over US 2,254,899 (Dunn) or US 2,254,899 (Dunn) in view of US 1,708,460 (Zeisberg).

In the previous Office action, mailed 14 January 2004, claim 10 was rejected under 35 U.S.C. 103(a) as being unpatentable over US 2,524,899 (Dunn) in view of "HETEROGENOUS CATALYSTS," products and services, Johnson Matthey Chemicals, Limited, 1981-1984, page 6 or US 2,524,899 (Dunn) in view of US 1,708,460 (Zeisberg) and further in view of "HETEROGENOUS CATALYSTS," products and services, Johnson Matthey Chemicals, Limited, 1981-1984, page 6.

In view of the present amendment to instant claim 1, filed 14 May 2004 and applicants' accompanying arguments, these rejections are hereby withdrawn.

Instant claim 1 now requires that the intermediate reaction product mixture comprising hydrogen and liquefiable products comprising the majority of the ethyl acetate produced in step a) be selectively hydrogenated *as recovered from the ethyl acetate production zone*.

Dunn, the primary reference, teaches away from selectively hydrogenating the impure ethyl acetate containing mixture, and instead teaches that the impure ethyl acetate containing mixture must first be azeotropically distilled to remove hydrocarbons before selective hydrogenation.

Applicants' remarks indicate that the intermediate reaction product mixture as recovered from the ethyl acetate production zone is an impure mixture, especially at page 12, five lines up from the bottom of the page, and at page 13, in line 7.

Response to Arguments

The arguments, filed 14 May 2004, in traversal of the rejections under 35 U.S.C. 103(a) set forth in the Office action mailed 14 January 2004 are persuasive, and those rejections have been withdrawn. Applicants' arguments included a statement to the effect that one reason the instantly claimed process should be allowed is that a substantially pure ethyl acetate as it would be understood by one of ordinary skill in the art at the priority date of the present application is different than a substantially pure ethyl acetate as would have been understood by one of ordinary skill at the time the Dunn patent issued (on page 14 – starting at the 3rd full paragraph – to page 15 at the end of the first full paragraph). This is unpersuasive. Specifically, applicants refer to WO 03/011809, (the examiner agrees that this publication is not prior art), as evidence

that "the maximum methylethylketone concentration currently allowable in commercial ethyl acetate products is about 100 to 50ppm." The examiner did not find any passage in WO 03/011809 which affirmatively states that this is so, and even such a passage were present in WO 03/011809, it would not be even of the slightest relevance to the instantly claimed process unless some reference to United States regulations were made. •

Most importantly, however, this aspect of applicants' argument is unpersuasive, because no limitation on the methyl ethyl ketone content of the ethyl acetate produced by the process of the instant invention is claimed.

Applicants' arguments filed 14 May 2004 point out two errata in the Office action mailed 14 January 2004, one in the interpretation of instant claim 1 (on page 8 of the correspondence from applicants) and the other in an interpretation of teachings found in Dunn (at the bottom of page 11 of the correspondence from applicants).

It is noted that instant claim 1 does not require that the liquefiable products of the intermediate reaction product mixture be comprised predominantly of ethyl acetate, as was stated on page 2 of the Office action mailed 14 January 2004, in the reasons for the rejection of claims 1-29 under 35 U.S.C. 103(a) based on US 2,027,182 (Lazier) being withdrawn. Nevertheless, withdrawal of that rejection was still appropriate in view of the amendment to instant claim 1 filed 24 November 2003, which requires a majority of the ethyl acetate produced in step a) to be present in the intermediate product mixture. Lazier's hydrogenation is for upgrading the "oily condensate" left over after ethyl acetate is distilled off from the product mixture. The "oily condensate," which is

hydrogenated contains only a small fraction of the ethyl acetate produced, due to a less-than-perfect separation.

It is further noted that, in Dunn, the close-boiling impurities removed by azeotropic distillation with the aid of methanol, are not aldehydes and ketones, but hydrocarbons formed as side-products in butadiene synthesis. This is contrary to a statement made on page 7 of the Office action dated 14 January 2004.

Allowable Subject Matter

Claims 1-29 are allowed.

An updated search of the prior art revealed no disclosures which are anticipatory or would render the instantly claimed process obvious. The closest prior art is US 2,254,899 (Dunn), and US 2,027,182 (Lazier). US patents 4,379,028 and 4,569,726 (both to Berg et al) teach extractive distillation of ethyl acetate without hydrogenation.

A process for the purification of dimethyl adipate is disclosed in US 4,532,027 (Kummer et al) – Example 1 – comprising hydrogenation to remove acetals and aldehydes.

Though selective hydrogenation to remove carbonyl-containing impurities (aldehydes and ketones) from ethyl acetate is known, the prior art does not teach that a selective hydrogenation is advantageously carried out on an impure ethyl acetate containing reaction mixture *as obtained from an ethyl acetate production zone*.

Conclusion

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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All Post-Allowance Correspondence concerning this application must be mailed to:

Mail Stop Issue Fee
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Or you can fax them to the Office of Patent Publications at 703-308-5083, in order to expedite the handling of such correspondence as amendments under 37 CFR 1.312; information disclosure statements, and formal drawings. Sending Post-Allowance papers to Technology Center 1600 will only cause delays in matching papers with the case.

For information concerning status of correspondence sent after receipt of the Notice of Allowance, please contact the Correspondence Branch at (703) 305-8027. The Notice of Allowance also has an insert containing contact information on other items, including Issue Fees, receipt of formal drawings and the status of the application.
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RICHARD L. RAYMON
PRIMARY EXAMINER
ART UNIT 1624